Documentation and Technical Notes on 2004 Population Estimates by Age Gender and Non Hispanic/Hispanic Race

This is to document the decisions, evaluations and the procedures used to produce the 2004 county level population estimates by age, gender and race/ethnicity. The estimates are in standard five year age grouping and the new OMB minimum categories with Asian and Pacific Islanders combined. The categories are: Non Hispanic White, Non Hispanic Black, Non Hispanic Asian/Pacific Islander, Non Hispanic American Indian, and Non Hispanic Two or More races. Hispanic is a separate ethnic category. The estimate is for April 1, 2004.

The Census Bureau released the Modified Race File (MRF) two years after decennial census. This file eliminates "Some Other Race" category so that the census counts become consistent with the new race categories established by the Office of Management and Budget (OMB) in 1997. Since the post census estimates are based on OMB new race categories, MRF is used as benchmark in this estimate. MRF contains a much smaller number of multiracial people. The Census Bureau has reclassified those whose selection was a combination of one single race plus "Some Other Race" into the single race category.

The most important and difficult task for this estimate is to achieve data consistency before the estimates can be produced. The MRF contains multiracial category, which all the inputs required for the estimates do not have. How to bridge the gap is the first thing to decide in the process. There are two ways to bridge the data. Backward bridging allocates multiracial population into the OMB old race categories before producing the estimates. Then after the estimate is finished, this group is pulled out. Forward bridging estimates the multiracial population for every input data item first. For this estimate the forward bridging method is used.

Data and Methodology

1. **Modified Race File**

This Modified Race File contains modified race categories based on Census 2000 data tabulated by age, sex, and Hispanic Origin. The Census Bureau's Population Estimates Program modified the Census 2000 race data for use in the production of post-2000 population estimates and projections. In Census 2000, there were approximately 18.5 million people nationwide who identified "Some other race" as part of, or their only, race response. According to the Census Bureau, these people were primarily of Hispanic origin, 90.4 percent or 16.8 million people. Many wrote in their Hispanic origin, or Hispanic origin type (such as Mexican or Puerto Rican), as their race. Since these people were not included in one of the five OMB race categories, it was necessary to modify their race. Responses of "Some Other Race" alone were first eliminated, and then, the "Hot Deck" procedure was applied to impute a valid OMB race category for them. Race

responses were imputed from a "donor," who matched on Hispanic origin. If the response is a combination of both "Some Other Race" and an OMB race, the "Some Other Race" response is removed and the OMB race response is reserved. No modification was made for responses indicating only an OMB race alone or in combination with another race. The modification did not correct or adjust the Census 2000 procedures for tabulating or coding race data, nor was it corrected for under coverage or duplication of persons in Census 2000. For details about the methodology, refer to "*Modified Race Data Summary File*2000 Census of Population and Housing *Technical Documentation Issued September 2002*" which can be found at Census Bureau's website: http://eire.census.gov/popest/data/national/tables/files/mod_race

2. Race and Ethnic Categories

The race categories used in this report are compliant to OMB new race classifications (Revisions of the Standards For the Classification of Federal Data on Race and Ethnicity, October 1997.) They are defined as follows and the Asian and Native Hawaiian and Other Pacific Islander categories are combined.

- White--- referring to people having origins in any of the original peoples of Europe, the Middle East, or North Africa. It includes people who indicated their race or races as "White" or wrote in entries such as Irish, German, Italian, Lebanese, Near Easterner, Arab, or Polish.

- Black or African American--- referring to people having origins in any of the Black racial groups of Africa. It includes people who indicated their race or races as "Black, African Am., or Negro," or wrote in entries such as African American, Afro American, Nigerian, or Haitian.

- American Indian and Alaska Native--- referring to people having origins inane of the original peoples of North and South America (including Central America), and who maintain tribal affiliation or community attachment. It includes people who indicated their race or races by marking this category or writing in their principal or enrolled tribe, such as Rosebud Sioux, Chippewa, or Navajo.

- Asian---referring to people having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent. It includes people who indicated their race or races as "Asian Indian," "Chinese," "Filipino," "Korean," "Japanese," "Vietnamese," or "Other Asian," or wrote in entries such as Burmese, Hmong, Pakistani, or Thai.

- Native Hawaiian and Other Pacific Islander--- referring to people having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands. It includes people who indicated their race or races as "Native Hawaiian," "Guamanian or Chamorro," "Samoan," or "Other Pacific Islander," or wrote in entries such as Tahitian, Mariana Islander, or Chuukese.

- Hispanics may be of any race. The terms "Hispanic" and "Latino" are used interchangeably in this report.

3. Methodology

The first task in producing this estimate is to develop control totals. As the rule, the sum of age, gender and race distribution by county must equal the state total by age and gender. At county level, the sum of the age, gender and race categories must sum to the total for each county that has been developed through the "Local Area Estimates" program. In the process, total population by race is produced with Cohort Component Method II (CMII). CMII is a sophisticated demographic accounting system. The estimate year population is produced by adding births, subtracting deaths and including net migration. Both births and deaths data come directly from the Department of Health. The school enrollment information is used to estimate migration for population 65 and under. School age migration is adjusted to the migration of all persons under age 65 based on 1990 to 2000 experience. Persons age 65 and over are estimated with information from Medicare data released by Centers for Medicare and Medicaid Service (CMS). Then the age and gender distribution within each race group is achieved by interpolating between 2000 MRF and OFM 2005 population projection by age, gender and race.

The county total by race is the other set of controls, and they are produced by the traditional component method. Total births and deaths by race/ethnicity and by county are provided by DOH. 1995-2000 migration data by county by race from census 2000 is used to calculate racial distribution of county level net migration. The migration pattern of the multiracial population was based on that of the total population.

The initial population estimates by age, gender and race at the county level are based on a share method. Since the group quarter populations maintain different growth patterns and characteristics from the general population, they need to be excluded from the estimating process and added back in afterwards. However, due to the lack of sufficient age groupings from Census 2000, only large group quarter facilities, such as major prisons and universities are considered. Demographic characteristics are based on information collected from the Department of Corrections and higher education facilities.

Forward bridging method is used to approximate what the multiracial population could be in the input data sets used in the estimates. This method is chosen over the backward bridging method for two reasons. First, it is simple. Once the multiracial population is approximated from every input data items, then the estimate procedure is set to go. Secondly, state agencies whose data are used in the estimates are in the process of implementing the new race classifications. Therefore the amount of work associated with the foreword bridging method will diminish gradually as agencies start to disseminate data in OMB new categories by the end of 2004.

The approximation is based on the differences between the 2000 Modified Race File and the file produced by National Center for Health Statistics (NCHS). NCHS file has used an algorithm developed with information gathered through several surveys to eliminate the "Two or More Race". The differences and percent differences between this file and MRF indicate how much to be taken out proportionally to form the "Two or More Race". These age gender and race specific percentages are applied to all the input data items. Other information sources are used to check the reasonableness of this procedure. The equal fraction method and the matrix of the choices that the multiracial people made for their racial identity in the Washington State 1998 Population Survey are both used for comparison. Based on such evaluation, adjustments have been made to 0-19 age groups of the Black and American Indian population groups.

The 15 to 19 year old population estimates by single year of age are developed with the share method. The 2000 single year of data by race and gender are used as base. "Some Other Race" is collected in the 2000 census tabulation. Since this category is not used in the estimates, it is allocated into the rest of race groups based on the proportions. The sum of race categories may not add up to the county totals, and in a few cases, the county age sex distribution do not add to the state. This is due to the suppression of small numbers that may violate the confidentiality measures. Rounding is the second reason that the numbers may not add up. The small numbers in 2004 estimates do not imply precision. The following are the list of counties where the small racial groups are suppressed.

1. Non Hispanic Black:
   Suspended: Adams, Asotin, Douglas, Ferry, Klickitat, Lincoln, Okanogan, Pacific, San Juan, and Skamania.
   Total Black: Adams, Asotin, Douglas, Ferry, Klickitat, Lincoln, Okanogan, Pacific, San Juan, and Skamania

2. Non Hispanic AIAN:
   Suspended: Adams, Columbia, and Wahkiakum.
   Total AIAN: Columbia, and Wahkiakum

3. Non Hispanic API: Adams, Columbia, Ferry, Garfield, Lincoln, Pend Oreille, Skamania and Wahkiakum
   Total API: Adams, Columbia, Ferry, Garfield, Lincoln, Skamania and Wahkiakum

4. Non Hispanic Two or More: Columbia, Garfield, and Wahkiakum
   Total Two or More: Columbia, Garfield, and Wahkiakum